blood samples were collected one hour after administration of test compounds/vehicle for assessing the biological activity.

Test compounds were suspended on 0.25% carboxymethyl cellulose and administered to test group at a dose of 10 mg to 100 mg/kg through oral gavage daily for 6 days. The control group received vehicle (dose 10 ml/kg). Troglitazone (100 mg/kg, daily dose) was used as a standard drug which showed 28% reduction in random blood sugar level on 6th day.

The blood sugar and triglycerides lowering activities of the test compound was calculated according to the formula:

$$\text{Blood sugar/triglycerides lowering activity (\%)} = 1 - \frac{DT/DC}{TC/ZC} \times 100$$

ZC=Zero day control group value

DC=Zero day treated group value

TC=Control group value on test day

DT=Treated group value on the test day

No adverse effects were observed for any of the mentioned compounds of invention in the above test.

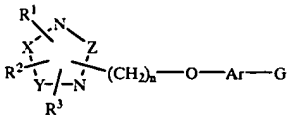
The compounds of the present invention also showed cholesterol lowering activity in the experimental animals used.

Compound	Dose mg/kg/da	Days treated	Maximum reduction in blood glucose level (%)	Triglyceride lowering (%)
Example 3	100	6	67	12
Example 6	100	6	41	31
Example 7	100	6	66	35
Example 9	30	6	46	35
Example 12	100	6	71	57
Example 13	100	6	52	57
Example 17	30	6	65	45
Example 19	30	6	73	70
Example 21	30	6	64	76
Example 22	30	6	55	41
Example 24	10	6	63	17
Example 11	30	6	32	42
Example 28	10	6	63	57

The experimental results from the db/db mice suggest that the novel compounds of the present invention also possess therapeutic utility as a prophylactic or regular treatment for obesity, cardiovascular disorders such as hypertension, hyperlipidaemia and other diseases; as it is known from the literature that such diseases are interrelated to each other.

What is claimed is:

1. An intermediate of formula (III)



(III)

where G represents —CHO, —NH_2, —CH=NOH, —CH_2NHOH, —CH_2N(OH)$CONH_2$ or —CH_2CH(J)-COOR, wherein J represents hydroxy or halogen atom and R represents hydrogen, or lower alkyl group; and of X, Y and Z represents C=O or C=S and one of the remaining of X, Y and Z represents a group C= and the other of the remaining of X, Y or Z represents C=C; with a proviso that when cyclic structure represented by X, Y and N form a pyrimidinone group, G does not represent CHO, R^1, R^2 and R^3 are the substituents either on X, Y or Z or on a nitrogen atom and are the same or different and represent hydrogen atom, halogen, hydroxy or nitro, or optionally substituted groups selected from alkyl, cycloalkyl, alkoxy, cycloalkoxy, aryl, aralkyl, heterocyclyl, heteroaryl, heteroaralkyl, acyl selected from acetyl, propionyl or benzoyl; acyloxy selected from acetyloxy, propionyloxy, or benzoyloxy; hydroxyalkyl, amino, acylamino, arylamino, aminoalkyl, aryloxy, alkoxycarbonyl, alkylamino, alkoxyalkyl, thioalkyl, alkylthio or carboxylic acid or its amides or sulfonic acid or its amides with the provision that when R^1, R^2 or R^3 is on a nitrogen atom it does not represent hydrogen, halogen, hydroxy, nitro; or substituted or unsubstituted aryloxy, alkoxy, cycloalkoxy, acyloxy selected from acetyloxy, propionyloxy, or benzoyloxy; alkylthio, carboxy or sulfonic acid groups; or any two of R^1, R^2 and R^3 along with the adjacent atoms to which they are attached may form a substituted or unsubstituted cyclic structure of 4 to 7 atoms, with one or more double bonds, which are carbocyclic or optionally contain one or more heteroatoms selected from oxygen, nitrogen and sulfur; the linking group represented by —$(CH_2)_n$—O— is attached either through nitrogen atom or through X, Y or Z, where n is an integer ranging from 1–4; and Ar represents an optionally substituted divalent aromatic or heterocyclic group.

2. A pharmaceutical composition which comprises, a compound according to claim 1 as an effective ingredient and a pharmaceutically acceptable carrier, diluent or excipient.

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